

1.(Previously Presented) A digital transcoding system for receiving data bit streams with a first bit rate (R1) and outputting a data bit stream with a second bit rate (R2), which differs from the first bit rate (R1) and in particular is reduced relative thereto, comprising on its input side a decoding device, which has an input buffer and a series-connected VLD decoder, also, on its output side, a coding device, which has a series circuit that includes a quantizer for requantizing with a requantization factor the data that have been dequantized in the decoding device, a subsequent VLC coder, and an output buffer, wherein to adjust the second bit rate (R2), the new DCT coefficients QF_{new} , which are to be conducted to the VLC coder, are determined with reference to macro-blocks, in accordance with the following formula:

$$QF_{new}[\nu][u] = QF_{old}[\nu][u] \cdot \frac{qs_{old}}{qs_{new}},$$

where qs_{old} stands for the old quantization factors, and qs_{new} for the new ones, and where QF_{old} stands for the DCT coefficients at the output of the VLD decoder.

2.(Original) The digital transcoder system of claim 1, wherein the value QS_{new} can be adjusted manually or by a control algorithm

3.(Original) The digital transcoder system of claim 1, wherein the value of the requantization factor qs_{new} is determined, with reference to macro-blocks, in according with the following requantization formula:

$$qs_{new}[i] = S \cdot \left((1 - R) \frac{r^{in}}{r^{out}} qs_{old}[i] + R \cdot A \right),$$

where S, A, and R are prescribed correction factors, r^{in} is the determined bit rate of the received data bit stream (R1), and r^{out} is the desired output bit rate (R2) of the transcoded data bit stream.

4.(Previously Presented) The digital transcoder system of claim 1 comprising a common stage with a multiplier, which receives the value QF_{old} from the variable length decoder and also the quotient qs_{old}/qs_{new} , and in that the output of the multiplier is connected, via a float-/integer-stage to the input of the VLC coder.

5.(Original) The digital transcoder system of claim 4, wherein the value qs_{old} is determined from the input data stream (R1).

6.(Previously Presented) The digital transcoder system of claim 5, wherein the VLC coder inserts the unchanged motion data from the input data bit stream (R1) into the transcoded bit stream.

7.(Previously Presented) The digital transcoder system of claim 6, comprising a device for determining a target data quantity (j) per picture or per reference object, and in that this device is connected to a scene section detection device, which detects scene sections in the picture, and an average value for the requantization factors of a previous picture of the same picture type, and a value for the number of bits that were generated in the transcoding of the immediately preceding picture are inputted as further control variables.

8.(Original) The digital transcoder system of claim 7, wherein the requantization factor qs_{new} can also be changed in terms of the number of macro-blocks per received picture and in terms of the picture refresh frequency in the received data bit stream.

9.(Previously Presented) The digital transcoder system of claim 8, comprising a monitoring device to monitor overflow or underflow of a VBV memory.

10.(Original) The digital transcoder system of claim 9, wherein the second bit rate (R2) is set constant independent of a variability of the first bit rate (R1).

11.(Previously Presented) A digital transcoding system for receiving data bit streams with a first bit rate (R1) and outputting a data bit stream with a second bit rate (R2), which differs from the first bit rate (R1) and in particular is reduced relative thereto, comprising on its input side a decoding device, which has an input buffer and a series-connected variable length decoder, also, on its output side, a coding device, which has a series circuit that includes a quantizer for requantizing with a requantization factor the data that have been dequantized in the decoding

device, a subsequent VLC coder, and an output buffer, wherein to adjust the second bit rate (R_2), the new DCT coefficients QF_{new} , which are to be conducted to the variable length coder, are determined with reference to macro-blocks.

12.(New) A digital transcoding system for receiving an input data bit stream with a first bit rate (R_1) and outputting an output data bit stream with a second bit rate (R_2) that is less than the first bit rate (R_1), comprising:

an input buffer that receives the input data bit stream and provides a received input data bit stream to a series-connected variable length decoder that provides a decoded signal indicative thereof;

an inverse quantizer that is responsive to said decoded signal, and provides a requantized signal indicative thereof;

a quantizer that receives said requantized signal and provides a quantized signal indicative thereof;

a variable length coder that receives said quantized signal and quantization control coefficients QF_{new} , and provides the output data bit stream at the second bit rate which is constant; and

a bit rate control stage that provides coefficients QF_{new} to said quantizer, wherein said coefficients QF_{new} are determined with reference to macro-blocks.